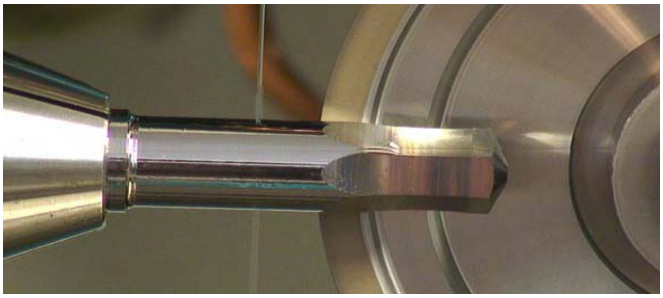
Application Data Sheet

Punch Ø19,27 L80mm

A27-010

The tool is made of a tungsten carbide cylinder. First, the reduced shaft has to be ground. Thereafter the tip and the hexagonal profile will be ground, depending on the selected key type. Additionally the tool is polished with a grinding wheel D20. Finally, to reach a superfine surface finish, the tool must be polished manually with a diamond paste.



1. Cycletime for Production

Workpiece: Diameter 19.27mm Material CARBIDE							
Operations	 Probe	 O.D. Rough	 O.D. Finish	 End Rough	 End Finish	 Hex. Rough	 Hex. Finish
Feed [mm/Min]	2000	1200	15	300	15	60	50
Power [kW]		1.2	0.4	0.8	0.4	0.8	0.4
Cutting speed [m/s]		20	40	22	40	22	40
Used wheels		1	2	3	4	5	6
Grinding time [s]	34	360	1500	120	120	360	180
Total cycle time	44 Min 34						

The cycle times are indicative. Material to be ground, grinding wheels, coolants can influence the cycle times considerably.

2. Used Grinding Wheels

1	Ø125 1A1 D64
2	Ø125 1A1 D20
3	Ø100 11V9 D64
4	Ø100 11V9 D20
5	Ø100 (20°) 11V9 D64
6	Ø150 11V9 D20

3. Machine and Software Requirements

Machines: 5 axes CNC grinders : NORMAcfg
Control: Fanuc 31i
Accessories: Dressing unit

Coolant: Synthetic Oil, pressure 6-7 bar
Software: Quinto 5

Responsible engineer: DI, 31.08.2009

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TECHNOLOGY FOR TOOLING